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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Gene M. NITSCHKE

Group Art Unit: 2173

Application No.: 09/411,642

Examiner: C. Thai

Filed: October 4, 1999

Docket No.: 103045

For: METHOD AND SYSTEM TO ESTABLISH DEDICATED INTERFACES FOR THE
MANIPULATION OF SEGMENTED IMAGES

**RESPONSE TO NOTIFICATION OF NON-COMPLIANT APPEAL BRIEF AND
RESUBMISSION OF APPEAL BRIEF**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the April 29, 2005 Notification of Non-Compliant Appeal Brief,
Applicant resubmits the enclosed Appeal Brief that is a revised version of the November 21,
2002 Appeal Brief, in accordance with the new rules and regulations under 37 C.F.R. §41.37.

Applicant thanks Examiner Thai for the courtesy extended to Applicant's
representative, Mr. Kime, during the May 5, 2005 telephone interview. During the May 5
telephone interview, Examiner Thai indicated that the rejections in the November 2, 2004
Office Action were withdrawn, and the November 21, 2002 Appeal Brief was reinstated.

Applicant thanks Examiner Cabeca for the courtesy extended to Applicant's
representative, Mr. Luo, during the May 17, 2005 telephone interview. During the May 17
telephone interview, Examiner Cabeca indicated that the Patent Office does not need to
respond to the December 23, 2004 Request for Reconsideration, or to issue a correspondence
indicating that the November 21, 2002 Appeal Brief has been reinstated. Examiner Cabeca

further indicated that the April 29, 2005 Notification of Non-Compliant Appeal Brief serves as a correspondence to notify Applicant that the Appeal has been reinstated.

No fee is believed to be due for filing this response to Notification of Non-Compliant Appeal Brief and Resubmission of Appeal Brief. However, in the event that any fee is due, please debit our Deposit Account No. 15-0461 as needed in order to effect proper filing of this Response to Notification of Non-Compliant Appeal Brief and Resubmission of Appeal Brief.

Respectfully submitted,

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Attachment:
Revised Appeal Brief

Date: May 31, 2005

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Application No. 09/411,642

I. REAL PARTY IN INTEREST

The real party in interest in this Appeal in the present application is XEROX CORPORATION, by way of an Assignment filed on October 4, 1999, and recorded at Reel 010309, Frame 0740.

II. STATEMENT OF RELATED APPEALS AND INTERFERENCES

There are presently no appeals or interferences, known to Appellant, Appellant's representative or the Assignee, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-21 are pending.

Claims 1-21 are rejected and are on appeal.

No claims are allowed.

IV. STATUS OF AMENDMENTS

There are no amendments to the claims. Claims 1-21 are pending as originally filed.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

Claim 1 is directed to a system that assembles a dedicated user interface 500 (Figs. 4-6, page 10, line 4-page 11, line 16) that allows an input segmented image 300 (Fig. 2, page 9, line 24-page 10, line 3) to be manipulated (Fig. 1, page 9, lines 11-20). As shown in Fig. 1, the system comprises a segmentation classification association circuit or device 180 that associates a segmentation classifier (Tables 1 and 2, page 7, lines 10-16, page 8, lines 7-14, and page 9, lines 1-2) and at least one segment of the input segmented image 300; and an image processing tool association circuit or device 150 that determines at least one image processing tool or function (Table 1, Fig. 6, page 7, line 28-page 8, line 2, and page 11, line 7-22) corresponding to the segmentation classifier (page 7, line 24-27).

Claim 10 is directed to a storage medium (page 8, line 7-page 9, line 2) that stores information. The information controls assembly of a dedicated user interface 500 (Figs. 4-6, page 10, line 4-page 11, line 16) that allows manipulation (Fig. 1, page 9, lines 11-20) of an input segmented image 300 (Fig. 2, page 9, line 24-page 10, line 3) and comprises information that associates a segmentation classifier (Tables 1 and 2, page 7, lines 10-16, page 8, lines 7-14, and page 9, lines 1-2) and at least one segment of the input segmented image 300; and information that determines at least one image processing tool (Table 1, Fig. 6, page 7, line 28-page 8, line 2, and page 11, line 7-22) corresponding to the segmentation classifier (page 7, line 24-27).

Claim 12 is directed to a method (Fig. 7, page 12 line 22-page 13, line 23) of assembling a dedicated user interface 500 (Figs. 4-6, page 10, line 4-page 11, line 16) for manipulation of an input segmented image 300 (Fig. 2, page 9, line 24-page 10, line 3). The method comprise determining a segmentation classifier (Tables 1 and 2, page 7, lines 10-16, page 8, lines 7-14, and page 9, lines 1-2) associated with at least one segment of the input segmented image 300; and associating at least one image processing tool (Table 1, Fig. 6,

page 7, line 28-page 8, line 2, and page 11, line 7-22) with the at least one segment of the input segmented image 300 (Fig. 7, page 12, line 22-page 13, line 23).

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

The following grounds of rejection are presented for review:

1. Claims 1-3, 6, 9-14, 16 and 21 are rejected under 35 USC §103(a) over U.S. Patent 5,787,194 to Yair in view of U.S. Patent 6,341,183 to Goldberg.
2. Claims 4, 5, 15 and 20 are rejected under 35 USC §103(a) over U.S. Patent 5,787,194 to Yair in view of U.S. Patent 6,341,183 to Goldberg and further in view of U.S. Patent 5,710,877 to Marimont.
3. Claims 7, 17 and 18 are rejected under 35 USC §103(a) over U.S. Patent 5,787,194 to Yair in view of U.S. Patent 6,341,183 to Goldberg and further in view of U.S. Patent 6,026,182 to Lee.
4. Claims 8 and 19 are rejected under 35 USC §103(a) over U.S. Patent 5,787,194 to Yair in view of U.S. Patent 6,341,183 to Goldberg and further in view of U.S. Patent 6,009,196 to Mahoney.

VII. ARGUMENT

A. Claims 1-3, 6, 9-14, 16 and 21 Ares Not Obvious over Yair in view of Goldberg

1. Claimed Features

Claim 1 recites (1) a system that assembles a dedicated user interface that allows an input segmented image to be manipulated comprising (a) a segmentation classification association circuit that associates a segmentation classifier and at least one segment of the input segmented image, and (b) an image processing tool association circuit that determines at least one image processing tool corresponding to the segmentation classifier.

Claim 2 recites, in addition to the features recited in claim 1, a user interface assembly circuit that assembles at least one selectable interface widget into at least one user interface based on the at least one image processing tool corresponding to the segmentation classifier.

Claim 3 recites, in addition to the features recited in claim 2, that the system modifies the at least one segment based on a selection of the at least one image processing tool associated with the at least one user interface.

Claim 6 recites, in addition to the features of claim 1, a segmentation selection circuit that selects the at least one segment.

Claim 9 recites, in addition to the features of claim 1, that the dedicated user interface is a graphical user interface comprising at least one of a drop-down menu, a pull-down menu, a radio button, a tab button, a segment display area or a slide bar.

Claim 10 recites (1) a storage medium that stores information, the information controlling assembly of a dedicated user interface that allows manipulation of an input segmented image and comprising (a) information that associates a segmentation classifier and at least one segment of the input segmented image, and (b) information that determines at least one image processing tool corresponding to the segmentation classifier.

Claim 11 recites, in addition to the features of claim 10, information that assembles at least one user interface based on the at least one image processing tool corresponding to the segmentation classifier.

Claim 12 recites (1) a method of assembling a dedicated user interface for manipulation of an input segmented image comprising (a) determining a segmentation classifier associated with at least one segment of the input segmented image, and (b) associating at least one image processing tool with the at least one segment of the input segmented image.

Claim 13 recites, in addition to the features of claim 12, assembling at least one selectable interface widget into at least one user interface based on the at least one image processing tool associated with the segmentation classifier.

Claim 14 recites, in addition to the features of claim 13, modifying the at least one segment based on a selected image processing tool.

Claim 16 recites, in addition to the features of claim 12, selecting at least one segment.

Claim 21 recites, in addition to the features of claim 12, that the dedicated user interface is a graphical user interface comprising at least one of a drop-down menu, a pull-down menu, a radio button, a tab button, a segment display area or a slide bar.

2. Analysis regarding claims 1, 3, 6, 9, 10, 12, 14, 16 and 21

Yair is directed to an image processing apparatus for segmenting an image into image portions containing single characters for subsequent storage and processing by an optical character recognition OCR apparatus. See col. 1, lines 8-14 of Yair. Yair discloses an apparatus for machine reading of printer or handwritten text. See col. 3, last sentence, which refers to Fig. 1 as showing such an apparatus. Yair discloses that an OCR input image may contain an arbitrary number of connected components, where each component could represent

several characters joined together, a single character, a part of a character, noise, or any other piece of image. See col. 2, lines 24-28 of Yair. Yair also discloses that it is essential for any OCR application to handwritten data to be able to handle both connected and broken characters in the same field of data. See col. 1, lines 36-39 of Yair. Yair is directed to solving the problem of segmentation of a field into its individual characters, such as found in tax forms, zip codes, census forms and credit card slips. See col. 2, lines 1-7 of Yair. Examples of handwritten individual characters are shown in Figs. 6 and 7 of Yair. Yair has absolutely no disclosure or suggestion of, or the need for, a user interface for his image processor.

Yair only employs machine reading of an input image and segments an unsegmented image into its single character components. Yair contains no disclosure or suggestion of, or any need for, a user interface, let alone a dedicated user interface or "a system that assembles a dedicated user interface that allows an input segmented image to be manipulated," as recited in claim 1.

Nor does Yair disclose "a dedicated user input that allows an input segmented image to be manipulated." Yair starts with an image capture device 100, and then uses a segmentation module 140, shown in general terms in Fig. 1 and in detail in Fig. 2. Yair is directed to segmenting an unsegmented "OCR input image" - see col. 2, line 24. The OCR input image is inputted via an "image capture device 100 of any suitable type, e.g., an optical camera or scanner" - see the sentence bridging columns 3 and 4 of Yair. In col. 4, lines 1-10, Yair discloses that the input image is digitized and stored in the form of a binary image comprising rows and columns of binary pixels in a suitable format in a data storage device 110. The signal from the input device 100 is passed to a data processing system 120, which includes the data storage device 110, the OCR module 130 and the segmentation module 140.

It is clear from this reading of Yair, that what is input to Yair is an unsegmented image that is sent to segmentation module 140. As recited in claims 1-3, 6, 9-14, 16 and 21, the claimed system, storage medium and method assembles a dedicated user interface that allows an input segmented image to be manipulated, whereas Yair does not have (1) a dedicated user interface, or (2) a input in the form of a segmented image which a dedicated user interface can manipulate. Moreover, Yair has not disclosed or suggested any need to provide a dedicated user interface. Yair's device works as designed, without any user interface, as an apparatus for machine reading of handwritten printed or handwritten text.

Moreover, the allegation in the final rejection that the recited "segmentation classification association circuit" is found in Yair overlooks the claim language itself which (regarding claim 1) actually recites "a segmentation classification association circuit that associates a segmentation classifier and at least one segment of the input segmented image", is not persuasive. This allegation overlooks the fact that the classification logic 220 in Yair is used to segment the unsegmented image input to the segmenter 140, not to associate a segmentation classifier and at least one segment of the input segmented image, as recited. Yair's classification portion or segmenter 140 is not working on a segmented image. Rather, it is segmenting an unsegmented image.

Similar language is recited in claims 10 and 11 (e.g., "information that associates a segmentation classifier and at least one segment of the input segmented image"), and similar language is recited in claim 12 (e.g., "determining a segmentation classifier associated with at least one segment of the input segmented image").

Accordingly, Yair does not teach a segmentation classification association circuit that associates a segmentation classifier and at least one segment of an input segmented image, which are features recited in claims 1-3, 6, 9-14, 16 and 21, as asserted in the Office Action.

At best, Yair teaches segmenting an unsegmented input image using, among other things, classification logic.

Yair also does not disclose "an image processing tool association circuit that determines at least one image processing tool corresponding to the image classifier," as recited in claims 1-3, 6, 9-14, 16 and 21. The Office Action admits this on page 3, lines 3-6.

In an attempt to supply the admittedly missing features, the office Action turns to Goldberg.

Goldberg provides a graphical user interface-based image acquisition interface for CCD camera control and image acquisition. In particular, Goldberg provides an event driven graphical user interface (GUI)-based image acquisition interface for the interactive data language (IDL) programming environment developed by Research Systems, Inc., which is designed for CCD camera control and image acquisition directly into the interactive data language environment. The functions performed by Goldberg's device include CCD detector control, image display and manipulation, and file saving and loading. See col. 3, lines 60-64 of Goldberg. Columns 5-8 of Goldberg disclose image display and manipulation. These functions include zooming, scaling for display, point and region selection, lineout display, and color table display, gamma scaling, and background subtraction.

Goldberg has nothing to do with OCR or image segmentation. Although Goldberg has image processing tools, Goldberg fails to provide an image processing tool association circuit that determines one image processing tool corresponding to any segmentation classifier, let alone "the segmentation classifier" recited in claim 1.

Actually, Goldberg is directed to solving a problem that does not appear in Yair. Goldberg is directed to alignment of an interferometer involving image analysis. The alleged rationale for combining Goldberg with Yair is to provide "real time data analysis support for images acquired during alignment of image acquisition analysis." - see page 3, last three lines

of the office Action. However, Yair does not disclose any need for such a graphical user interface. Nor does Yair disclose any need for alignment of an interferometer, or "alignment of image acquisition" or any "alignment of image acquisition analysis."

The Office Action fails to provide any proper motivation to combine these two disparate references. Federal Circuit case law makes it abundantly clear that a showing of motivation to combine references must be clear and particular, and that broad, conclusory statements about the teaching of multiple references, standing alone, are not "evidence." The Office Action must also demonstrate that modifying one reference in view of another reference is even feasible. Moreover, the case law requires that for motivation to be proper, showing that something is feasible is not enough. Just because something is feasible does not mean that it is desirable or that one of ordinary skill in the art would be motivated to do what is feasible. The Federal Circuit has repeatedly pointed out that motivation to combine references requires a showing not just of feasibility, but also of desirability.

The Office Action completely fails all of the aforementioned case law requirements to constitute a showing of proper motivation to combine Yair and Goldberg. In fact, the Office Action fails to even indicate what would motivate one of ordinary skill in the art to combine these two references. Rather, as noted above, the Office Action merely states what will happen if the references are combined. The Office Action alleges that the combination would provide real-time data analysis support for images acquired during the alignment of image acquisition analysis. However, Yair does not need real-time data analysis support for images acquired during the alignment of an interferometer that use "several alignment procedures that involve image-processing and analysis of the images recorded during alignment" - see col. 2, lines 60-64 of Goldberg.

Yair is directed to a simple machine readable digital image that does not contemplate or need a dedicated user interface or the sophisticated image processing tools of Goldberg that

are involved with Goldberg's interferometer alignment procedures. Moreover, there is no user input in Yair's system. Yair captures an image, segments the image into its single character components, OCR's the segmented (into a single character) image and stores the image.

Yair's device presumably works well without any user interface. There is simply no need for a dedicated user interface in Yair. Accordingly, for the aforementioned reasons, Applicant respectfully contends that the Office Action provides no proper motivation to combine Yair and Goldberg.

Moreover, even if it were feasible and desirable to combine these two references, which the Office Action has not demonstrated, the combination would not render the claimed invention obvious because, even if combined, the combination would still not have the features recited in claim 1, including a segmented image, "a segmentation classification association circuit that associates a segmentation classifier and at least one segment of the input segmented image", or an image processing tool association circuit that determines at least one image processing tool corresponding to the segmentation classifier.

Additionally, the assertion in the final rejection that one could incorporate a toolbox of various analytical tools into Yair is based solely on feasibility, not desirability. Yair does not need, nor can Yair use, an image analysis toolbox with the four tools disclosed by Goldberg, i.e., with "the Fourier-transform Alignment Tool, the Contrast Tool, the Wavefront Tool, and the Zernike Polynomial Tool" - See cols. 8-11. The Fourier transform Alignment tool is used for alignment purposes; the Contrast tool is used for interference fringe contrast determination and averages the contrast of the last fifteen images to determine if the contrast of a given image is improving, worsening or has reached a maximum; the Wavefront tool is used to reveal aberrations in the interferometer optical system (not-in real time, but if wavefront calculations can be done in real time, Goldberg expressly teaches they would be performed without user instigation- see col. 10, lines 60-63; and the Zernike Polynomial tool

is used to determine of the defocus, astigmatism, coma, spherical aberration of the optical system under test.

Yair has no optical system under test and needs none of these tools. Under these circumstances, the final Office Action fails to demonstrate that one of ordinary skill in the art would desire to combine Goldberg with Yair to provide any dedicated user interface for Yair and especially the one disclosed by Goldberg which deals with interferometric analysis used for CCD camera control.

Accordingly, neither Yair nor Goldberg, alone or in combination, disclose the features of claims 1,10 or 12 for the reasons stated above.

3. Analysis regarding claims 2, 11 and 13

Claims 2, 11, and 13 further distinguish over Yair and Goldberg. Claim 2 recites the additional feature of a user interface assembly circuit that assembles at least one selectable interface widget into at least one user interface based on the at least one image processing tool corresponding to the segmentation classifier. Neither Yair nor Goldberg disclose or suggest an image processing tool corresponding to an image segmentation classifier. The Office Action fails to demonstrate a proper motivation for combining these two references, and even if combined, because of the absence of other claimed features from both references, for reasons set forth above, the reference combination would not render the claimed invention obvious.

Yair admittedly has no disclosure of an image processing tool association circuit that determines at least one image processing tool corresponding to the segmentation classifier, and Goldberg does not even disclose a segmentation classifier. Moreover, there is no proper motivation to combine these references, as pointed out above.

Similar comments apply to claims 11 and 13, which recite similar features to that recited in claim 2. It is noted that claim 11 does not recite a widget.

4. Analysis regarding claims 6 and 16

Claim 6 depends from claim 1 and claim 16 depends from claim 12. Neither Yair nor Goldberg discloses the additional feature recited in these claims, e.g., "further comprising a segmentation selection circuit that selects the at least one segment." Yair, which is alleged in the Office Action to show this feature, only discloses a segmentation classifier. See Fig. 2, and the associated disclosure of Yair. Yair does not associate an image processing tool which corresponds to the segmentation classifier (as recited in claim 1) nor does Yair associate a segmentation classifier and at least one segment of the input segmented image. Yair does not segment a segmented image and classify the re-segmented image.

5. Conclusion

For at least the reasons outlined above, the combination of Yair and Goldberg fails to teach, disclose or suggest all of the features of claims 1-3, 6, 9-14, 16 and 21.

Lastly, Applicant respectfully points out that the reason the final Office Action presents for combining these references, i.e., "the system would enhance by providing more varieties and selectable processing tools in GUI-based interface to end user wherein the user has capable of selecting tool based on his/her own desired manner" is the type of broad, general rationale that the Federal Circuit indicates does not provide proper motivation to combine references, especially here, where the main reference, Yair, does not employ a user interface and one is not needed to make the Yair device work as disclosed.

Accordingly, the final rejection fails to make out a prima facie case of obvious of the invention recited in claims 1-3, 6, 9-14, 16 and 21, and this rejection should be reversed.

B. Claims 4, 5, 15 and 20 Are Not Obvious over Yair in view of Goldberg and further in view of Marimont

1. Claim Features

Claim 4 depends from claim 1 and additionally recites a segmentation mapping circuit that determines the at least one segment based on a position of a user input device in the input segmented image.

Claim 5 recites the system of claim 4, wherein the segment mapping circuit highlights the at least one segment based on the position of a user input device in the input segmented image.

Claim 15 depends from claim 12 and additionally recites determining at least one segment based on a position of a user input device.

Claim 20 depends from claim 12 and additionally recites highlighting the at least one segment of the input segmented image.

2. Analysis

The Yair-Goldberg reference combination does not render claims 1 and 12 obvious for the reasons stated above. The final Office Action alleges that Marimont discloses that the feature "of the segment mapping circuit that determines the at least one segment based on a position of a user input device in the inputted segmented image" as the technique of the discovery of a data structure representation of an image called an image structure map (ISM) that accurately and explicitly represents the geometric and topological properties of an image and that allows for efficient and accurate spatial indexing of regions of an image. The Office Action asserts that the input source may be directed by a human user or by an automatic operation based under control of a processor.

The final Office Action then concludes that it would be obvious to modify the Yair-Goldberg reference combination "to include the limitation of the segment mapping circuit

highlights the at least one segment based on the position of a user input device by Marimont . . . [to] . . . enhance by signaling the user to know where is the location of the image structure map from which user will interact with."

This combination of references is based on nothing but hindsight. As noted above, Yair does not need a user interface and there is no proper motivation for a skilled worker to provide one for Yair's system. The Yair-Goldberg reference combination is improper for the reasons stated above. Even if a Yair-Goldberg were proper (which it is not), it would apparently concern optical character recognition of handwritten or printed characters. Goldberg has nothing to do with optical character recognition of handwritten or printed characters, nor does Marimont. The Office Action fails to demonstrate any motivation for a skilled worker to combine Marimont with Yair and Goldberg and has not shown that such a reference combination is feasible, let alone desirable.

The Office Action has started with an OCR image analysis system that needs no user interface and is now modifying that OCR image analysis system with Marimont which discloses tools permit a user to directly interact with both an original image and a version of the original image generated from the image data structure, features that are not needed or wanted in Yair. Furthermore, what is actually recited in claims 4, 5, 15 and 20 is an association of a segmentation classifier and at least one segment of the input segmented image, something not wanted or needed in Yair.

One of ordinary skill in the art would not even look to Marimont to modify Yair for several reasons. As noted above, Marimont is concerned with communicating information to a human viewer about image objects, their spatial relationships, i.e., geometric and topological relationships, and the colors of their surfaces that a human viewer is able to quickly and accurately recognize and understand. To do this, a human viewer of an image must be able to compute geometric and topological information from the image robustly and

efficiently - see col. 1, lines 24-32. Marimont is directed to using an image as a medium of communication to a human viewer, not to machine reading of an image for optical character recognition.

Applicant respectfully submits that Marimont is directed to a decidedly different type of image analysis as are Yair and Goldberg and that one of ordinary skill in the art would have no reason to combine the teachings of these disparate references. Moreover, in contradiction to what was stated above in the final Office Action, Applicant respectfully points out that while Marimont's user may further invoke automatic operations on the original image data structure that produce region data, such as signal property descriptors and boundary data, that may be used to update the image structure map, Marimont is directed to using both automatic operations and user input. Marimont expressly discloses that an image interaction system organized in this manner takes full advantage of automatic computation methods to capture the geometric and topological properties of an image while permitting a user to employ human perceptual skills to augment the automatic operations. Marimont teaches that this combination of system elements provides much more powerful interaction with an original image than merely through the pixel data of the image. See Marimont, col. 4, lines 30-53. Thus, the statement in the final Office Action that the input signal source may be directed by a human user or by an automatic operation under control of a processor is at best misleading. Marimont actually teaches using both automatic and human user image interaction are required.

Additionally, as noted above, Goldberg is not a properly combined with Yair and even if combined with Yair, would not result in the claimed invention. Moreover, there is no proper motivation to modify Goldberg with Marimont because Goldberg has no image structure map with which a user may interact

The alleged rationale for combining these references, i.e., "the system would enhance by permitting user interaction with the structure in an original image through image structure mapping" is not only an improper, broad, general conclusionary statement that does not constitute evidence of provide proper motivation to combine the applied references, but is also incorrect because Yair's system would not be enhanced in any way by Goldberg or Marimont, especially because Marimont is directed to image appearance to a human.

3. Conclusion

For at least the reasons outlined above, the combination of Yair, Goldberg and Marimont fails to teach, disclose or suggest all of the features of claims 1-21. Nor has the Office Action provided evidence establishing a prima facie case of obviousness of claims 1-21 based on Yair, Goldberg and Marimont. Thus, the combination of Yair, Goldberg and Marimont fails to render obvious the subject matter of claims 1-21 under 35 U.S.C. §103(a). Reversal of the rejection of claims 4, 5, 15 and 20 under 35 U.S.C. §103(a) as unpatentable over the combination of Yair, Goldberg and Marimont is respectfully solicited.

C. Claims 7, 17 and 18 Are Not Obvious over Yair in view of Goldberg and further in view of Lee

1. Claim Features

Claim 7 recites that the image processing tool association circuit determines the at least one image processing tool based on at least one of predefined configurable association data, updatable configurable association data or user configurable association data.

Claim 17 depends from claim 12 and further recites determining at least one image processing tool based on at least one of predefined configurable association data, updatable configurable association data or user configurable association data.

Claim 18 depends from claim 17 and further recites updating the user configurable association data.

2. Analysis

Claims 7, 17 and 18 are patentable over Yair and Goldberg for the reasons stated above regarding claims 1 and 12. Moreover, Lee does not supply the deficiencies outlined above in Yair and Goldberg. Therefore, for these reasons alone, claims 7, 17 and 18 patentably define over Yair, Goldberg and Lee.

Lee is directed to compressing digital video signals, and includes a method of segmenting or identifying selected objects from other objects within a video image frame. A user forms an interior outline within the interior object perimeter and the interior outline is expanded automatically to form an exterior outline. See col. 3. lines 49-67 of Lee. The segmentation method operates on motion pictures and tracks objects in subsequent frames.

The Final Office Action fails to provide any proper motivation to modify the combination of Yair and Goldberg based on Lee. Instead, the Office Action merely states what would result from such a combination of references, which allegedly is a predefined configuration tool available to image processing toolbox end user.

This completely violates the requirements of the case law cited above, which requires that the Office Action provide proper motivation to combine these references, including not only the feasibility of the combination, but also desirability of the combination.

Moreover, the Office Action fails to demonstrate why one of ordinary skill in the art would desire to modify Yair, which already has segmented the handwriting image, by using Lee's video image compression technique using a segmentation which starts with a hand drawn interior outline and expands it automatically.

Moreover, even if the references were combined, the Office Action fails to demonstrate that the segmentation techniques of Yair, Goldberg and Lee are compatible, or

how they would work when combined, let alone why the combined image segmentation would be desirable.

3. Conclusion

For at least the reasons outlined above, the combination of Yair, Goldberg and Lee fails to teach, disclose or suggest all of the features of claims 7, 17 and 18. Nor has the Office Action met the standards required by the APA or provided evidence establishing a prima facie case of obviousness of claims 7, 17 and 18 based on Yair, Goldberg and Lee. Thus, the combination of Yair, Goldberg and Lee fails to render obvious the subject matter of claims 7, 17 and 18 under 35 U.S.C. §103(a), and this rejection should be reversed.

D. Claims 8 and 19 Are Not Obvious over Yair in view of Goldberg and further in view of Mahoney

1. Claim Features

Claim 8 depends from claim 1 and recites that the segmentation classifier corresponds to at least one of a photographic region, a half-tone region, a text region, a line art region, a black and white region or a color region.

Claim 19 depends from claim 12, and recites that the segmentation classifier corresponds to at least one of a photographic region, a half-tone region, a text region, a line art region, a black and white region or a color region.

2. Analysis

Mahoney is directed to analyzing image data that represents images containing text, to partition the image data into running and non-running text regions and to further classify the non-running text regions as a horizontal sequence, a vertical sequence or a table as a preliminary step to optical character recognition. Yair does not need this preliminary step added to the disclosed device because Yair has already selected the handwritten characters that the disclosed OCR system works with. Separating text characters into running and non-

running types will add nothing to Yair, which is primarily concerned with handwritten characters in tax forms, zip codes, census forms and credit card slips.

Moreover, the alleged reason for combining these three references is "the system would enhance by providing more enhanced classifier tools to end user." This is not a clear and particular motivation showing, but rather, a broad conclusory statement about the teaching of these multiple references, which is not proper evidence to motivate one of ordinary skill in the art to desire to modify the references." See Dembiczak, 175 F.3d at 1000, 50 USPQ2d at 1617.

The final Office Action also fails to make out a prima facie case of obviousness because it does not provide proper motivation to combine Mahoney with Yair and Goldberg. In fact, the final Office Action gives no reason to combine the references. Instead, the final Office Action just states what would happen if the references were to be combined, i.e., that the combination would provide more enhanced classifier tools to an end user.

The Office Action fails to demonstrate that combining these references is feasible and fails to demonstrate that combining these reference would be desirable. Mahoney is directed to page layout analysis, which is taught by Mahoney to be divided into two broad categories, i.e., geometric layout analysis and logical structure analysis. See col. 1, lines 52-67 of Mahoney. The Office Action fails to demonstrate that page layout analysis in general, or that either of these page layout analyses categories is relevant to Yair's optical character recognition of handwritten data or printed data, or to Goldberg's alignment of an interferometer, for example.

Applicant respectfully submits that one of ordinary skill in the art would not have found it feasible and desirable to modify Yair and Goldberg in view of Mahoney, let alone to have picked only a certain portion of Mahoney to modify the combination of Yair and Goldberg. The only motivation to combine these references is improper hindsight learned

from reading Applicant's disclosure, and this is not a proper basis on which to combine references in a rejection based on 35 USC §103(a).

3. Conclusion

Claims 8 and 19 are patentable over Yair and Goldberg for at least the reasons stated above regarding claims 1 and 12. Additionally, Mahoney does not cure the defects in the combination of Yair and Goldberg. Thus, for the reasons above, claims 8 and 19 patentably define over Yair, Goldberg and Mahoney.


For at least the reasons stated above, the combination of Yair, Goldberg and Mahoney fails to teach, disclose or suggest all of the features of claims 8 and 19. The Office Action has not provided evidence establishing a prima facie case of obviousness of claims 8 and 19 based on Yair, Goldberg and Mahoney. Thus, the combination of Yair, Goldberg and Mahoney fails to render obvious the subject matter of claims 8 and 19 under 35 U.S.C. §103(a). Reversal of the rejection of claims 8 and 19 as unpatentable over the combination of Yair, Goldberg and Mahoney is respectfully solicited.

VIII. CONCLUSION

A fair, balanced review of the rejections of record in the final Office Action reveals that the final Office Action fails to make a prima facie case of obviousness of the claimed invention over the applied references. In fact, the only rationale for combining the applied references is improper hindsight reconstruction of the claimed invention based solely on Applicant's disclosure. Claims 1-3, 6, 9-14, 16 and 21 are not obvious under 35 USC §103(a), and thus are patentable over, Yair in view of Goldberg; claims 4, 5, 15 and 20 are not obvious under 35 USC §103(a), and thus are patentable over, Yair in view of Goldberg and further in view of Marimont; claims 7, 17 and 18 are not obvious under 35 USC §103(a), and thus are patentable over Yair in view of Goldberg and Lee; and claims 8 and 19 are not obvious under 35 USC §103(a), and therefore are patentable over, Yair in view of Goldberg and further in view of Mahoney.

The Honorable Board is requested to reverse the rejections set forth in the final Office Action and return the application to the Examiner to consider U.S. Patent 5,802,203, which was supplied in an Information Disclosure Statement to the Examiner, but which the Examiner has not considered on the merits, despite a number of requests to do so, and pass this case to issue.

Respectfully submitted,



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APPENDIX A - CLAIMS APPENDIX

1. A system that assembles a dedicated user interface that allows an input segmented image to be manipulated comprising:
 - a segmentation classification association circuit that associates a segmentation classifier and at least one segment of the input segmented image; and
 - an image processing tool association circuit that determines at least one image processing tool corresponding to the segmentation classifier.
2. The system of claim 1, further comprising a user interface assembly circuit that assembles at least one selectable interface widget into at least one user interface based on the at least one image processing tool corresponding to the segmentation classifier.
3. The system of claim 2, wherein the system modifies the at least one segment based on a selection of the at least one image processing tool associated with the at least one user interface.
4. The system of claim 1, further comprising a segmentation mapping circuit that determines the at least one segment based on a position of a user input device in the input segmented image.
5. The system of claim 4, wherein the segment mapping circuit highlights the at least one segment based on the position of a user input device in the input segmented image.
6. The system of claim 1, further comprising a segmentation selection circuit that selects the at least one segment.
7. The system of claim 1, wherein the image processing tool association circuit determines the at least one image processing tool based on at least one of predefined configurable association data, updatable configurable association data or user configurable association data.

8. The system of claim 1, wherein the segmentation classifier corresponds to at least one of a photographic region, a half-tone region, a text region, a line art region, a black and white region or a color region.

9. The system of claim 1, wherein the dedicated user interface is a graphical user interface comprising at least one of a drop-down menu, a pull-down menu, a radio button, a tab button, a segment display area or a slide bar.

10. A storage medium that stores information, the information controlling assembly of a dedicated user interface that allows manipulation of an input segmented image and comprising:

information that associates a segmentation classifier and at least one segment of the input segmented image; and

information that determines at least one image processing tool corresponding to the segmentation classifier.

11. The storage medium of claim 10, further comprising information that assembles at least one user interface based on the at least one image processing tool corresponding to the segmentation classifier.

12. A method of assembling a dedicated user interface for manipulation of an input segmented image comprising:

determining a segmentation classifier associated with at least one segment of the input segmented image; and

associating at least one image processing tool with the at least one segment of the input segmented image.

13. The method of claim 12, further comprising assembling at least one selectable interface widget into at least one user interface based on the at least one image processing tool associated with the segmentation classifier.

14. The method of claim 13, further comprising modifying the at least one segment based on a selected image processing tool.
15. The method of claim 12, further comprising determining at least one segment based on a position of a user input device.
16. The method of claim 12, further comprising selecting at least one segment.
17. The method of claim 12, further comprising determining at least one image processing tool based on at least one of predefined configurable association data, updatable configurable association data or user configurable association data.
18. The method of claim 17, further comprising updating the user configurable association data.
19. The method of claim 12, wherein the segmentation classifier corresponds to at least one of a photographic region, a half-tone region, a text region, a line art region, a black and white region or a color region.
20. The method of claim 12, further comprising highlighting the at least one segment of the input segmented image.
21. The method of claim 12, wherein the dedicated user interface is a graphical user interface comprising at least one of a drop-down menu, a pull-down menu, a radio button, a tab button, a segment display area or a slide bar.